

Self-interaction for particles in the wormhole space-times

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Abstract

The self-energy and self-force for particles with electric and scalar charges at rest in the space-time of massless and massive wormholes are considered. The particle with electric charge is always attracted to wormhole throat for arbitrary profile of the throat. The self-force for scalar particle shows different behavior depending on the non-minimal coupling. The self-force for massive scalar field is localized close to the throat of the wormhole. © 2011 World Scientific Publishing Company.

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Keywords

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